The MAC Flyer

AUGUST 1974

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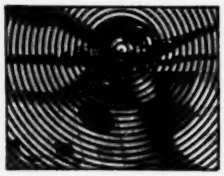
16

24

Dollar Ride with the Old Man 3
Dear Doc 7
A Matter of Life and Death at Sea 8
Global Notes 11
Mishap with a Moral: Spoilers Too Soon... 12
Same Time, Same Place, Same Flight Level.. 14
Strange Noises 16
Letters to the Editor 18
"Load: Six Pallets and Ten Pax" 20
The Replacement 22
C. R. Terror 24
Quick Stoppers 28

COVER: A Matter of Life and Death at Sea — page 8. A life saving maneuver often repeated by ARRS crews around the world.

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Second Place Winner 1974 Writing Contest

On a MAC flight of the future an old head reminisces as he baptizes a fledgling pilot into the system.

by Capt Steven H. Findeiss, 40 ARRS
Nakhon Phanom RTAFB, Thailand

It was my first live ride in the old bird, and by tradition would take place with the Chief of Standardization and Evaluation as AC. This, the reasoning went, gave new pilots the best possible start — a standard with which to compare subsequent aircraft commanders. The ride would serve as my initial copilot and over-water checkouts. It would also be my one "live" mission — barring the start of war — for the next 12 months.

All briefed and filed, we headed for the aircraft. The pinger crew had just finished their check. With all the professional coolness a brown bar can muster, I strolled over to the pinger chief and asked, "How's she sound?"

"Pretty good, sir," he answered. "Looks like a small fracture plane about 160 inches out on the left main spar, but it's in one of the modified areas and doesn't go through either cap, so you're okay."

"How many doublers do they have on that spar by now?" I asked.

"Quite a few, sir," he grinned. "She's an old, tired bird with cracks in her bones, but we keep splinting her and she keeps flying. A real jet age Gooney Bird!"

I laughed with him and quickly retreated, my "old hand" act exhausted. What the hell was a Gooney Bird? Made a mental note to ask the AC once we were en route.

That crusty gentleman was now through with his own inspection (though what he expected to find that the pinger team and 14 other ground crew members missed I can't imagine) and was strapping in. I followed suit and we were ready to tow. The big electric tug eased us smoothly out of the chocks, on time. I called for the clearance.

En route to the runway the colonel turned to me. "Did you know we used to start engines in the parking spot and free-taxi to the runway?" I was incredulous. All that wasted fuel! Not to mention the danger of maneuvering such a large aircraft in the relatively close quarters of the parking ramp.

"Wasn't that awfully dangerous, sir?" I asked.

"Well, it shouldn't have been, but every now and then someone would run into something."

"How in the world could that happen, with wing walkers and nose and tail spotters?" I asked.

"Would you believe, we didn't have to use wing walkers unless we were within 25 feet of an ob-

stacle?" I tried to picture free-taxiing without wing walkers.

"But when you got within 25 feet and got some walkers, then how could you run into anything?"

"I think your clearance is ready," said the colonel.

We were cleared for brake release on the hour. The tug towed us into place on the end of the runway and waited for us to start engines. That would take place exactly five minutes before brake release. Meanwhile, the "next-to-last-chance" crew swarmed around the aircraft, making sure gear pins were pulled, tires hadn't been cut during the tow, nothing had been blown into the intakes, and so on. After engine start, the last-chance crew would get their turn. The crews swapped jobs every month and the "last" crew collected a case of brew from "next-to-last" for anything that got by the latter. I heard that actually happened once, a few years ago.

"You know," mused the colonel, "when I first started flying there was no last-chance inspection."

"You mean no 'next-to-last'," I corrected.

"No," he smiled tolerantly at his green right seater, "there wasn't either one. You caught your problems in the blocks or not at all, unless someone taxiing by noticed something hanging off, or running out, or whatever. That's why we started the last-chance check."

I called Center on the roll. "Good evening," said the cheerful voice. Didn't think it was that time of the month already."

"Once a month, whether we need it or not," I gave the traditional reply. It would be my only communication with the controller until we were handed off to Honolulu Approach, unless something unusual happened.

After level-off, while drinking our coffee, the old man began again. "I remember when we used to fly maybe 15 or 20 missions a day out of Travis alone, instead of one a month." I tried to picture the swarm of men, planes, cargo, and trucks that such an effort would entail. "Of course, that was back before the fuel shortage. We had company up here then, too — the commercial airlines had a total fleet 20 or 30 times MAC's size. Then there was the general aviation fleet, about 200,000 private and corporate aircraft. It made for a pretty crowded sky, especially around terminals. But the worst thing was some of them weren't even under radar control."

"You're kidding!" I exclaimed.

"Nope. You had to watch out for 'em all the time, even when practicing instrument work. Ever so often someone didn't and there was a midair collision." I had heard of those — the last one had happened only 12 or 13 years ago. I suppressed a shudder.

"Another problem we had was altitude control. The AIMS system was just getting started and very few stations had the equipment to read your altitude, so the only thing that stood between you and the ground was hearing an assigned altitude correctly, reading it back correctly, and the controller hearing what you actually said instead of what he expected you to say. Sometimes that chain broke down, and we flew an airplane into the ground," he said.

I was getting a little pale. "But why in the world would a pilot fly lower than the minimum sector altitude, or the minimum obstruction clearance altitude?" I wondered aloud.

"Sometimes they didn't bother to check it," he said. "And sometimes they got the assigned altitude right but flew through it because they were distracted."

I literally couldn't believe it. How could they get distracted when it was their lives on the line? "What were they doing with the radar altimeter?" I asked.

"Well, they didn't have to reset it and call every thousand feet from five down, the way we do now, but they did have a radar altimeter. I don't know."

The flight engineer interrupted by handing me the fuel chart and hourly spectral analysis. Fuel and oil were looking good, but I noticed the iron level in number two hydraulic fluid was up since takeoff. I mentioned it to the old man, handing him the chart.

"That's another thing," he said. I steeled myself for another shock. "We didn't have the in-flight fluid analyzer, either. There was a crude forerunner, though, called SOAP, but it only gave us the condition of things before the flight, and then only for the oil."

"What earthly good did it do you to know how the engines were **before** the flight?" I asked.

"Not much, compared to the in-flight system, but it was all we had," said the colonel — a little defensive now. I was going to ask him how they detected a failing hydraulic component, but thought the better of it. In a minute he continued. "We didn't have any ultrasonic structural testers, either."

No pingers? Just how old is this man, I wondered? Those things had been around since the mid-seventies, at least. "Then how did they know when a crack developed? How did they know where to reinforce a spar?"

"This was back during the old

bird's design lifetime — when there weren't many fatigued structural members and usually the ones you found were pretty noticeable. Just after I started flying her, they found a cracked frame around the windshield when one failed on climbout."

I gave a low, respectful whistle and remarked, "That was a pretty tough way to find bad structure!"

Unexpectedly, Center called. "MAC Six, we're showing rapidly increasing headwinds at your level in about 150 miles, but well stratified. Computer says a 1,500 foot descent is most economical. Descend and maintain flight level 435." I read back the altitude and began a slow descent.

"You know, when I began flying the line," the colonel continued, "there weren't any satellite weather stations. Just photographic platforms. So the first you knew of a windshift was when your groundspeed dropped. And sometimes the actual winds were as much as 50 or 60 knots worse than forecast. To protect against that, we carried an extra 10 or 20 thousand pounds of fuel — and there were times when you needed every bit of it."

I reflected on that for a moment: that extra five or ten tons of pad probably cost an extra two tons of fuel burned to carry it across the ocean — an absurd situation today. Our fuel for this mission, of course, was figured to the pound, with one hour of holding on the end for emergencies. Initial cruising altitude was always FL 450 — easily reached with the almost-empty planes we usually flew — and any descents were parceled out by Center only if the increased groundspeed would more than offset the known increase in fuel consumption at lower altitude. In fact, a 1,500 foot descent was said to be quite large.

Lockheed's ageless lady sailed on. In the smooth, clear air of FL 435 I was struck by the resemblance of our flight to what we'd seen some two dozen times in the simulator. The vivid blue sky, etched blue-gray of the ocean eight miles below, scattered clouds a few thousand feet above the surface — all were exactly as I'd seen them before in the box. Impressed, I mentioned this to the colonel. He looked pained.

"So glad to hear that, Lieutenant, but I'm afraid you're a little confused. The simulator duplicates real life, not the other way around." I thought that over as he continued. "I can see how you young guys feel that way, though. Eighty hours in the box, with exact visual and exact motion, complete through landing roll, before your dollar ride. Did you know they used to put guys up live after only one simulator ride?" I shook my head in disbelief. "It's true. They got their first landings in the real aircraft. The old simulators didn't have any visual, and the motion was pretty crude, so a new guy just bounced five or six live ones on until he got the hang of it."

Once again I felt the now familiar awe at those early aviators. I knew how the simulator had reacted to my first landing — the 3-D visual is even more impressive than the motion — and I tried to picture a hundred-odd tons of Starlifter going through the same gyrations. I imagined a drunk elephant on roller skates. No way, man. Besides, how did they demonstrate hydroplaning, or outboard engine failure on a short field, or wake turbulence on final, or any of a dozen other emergencies you had to have visual reference for? No one in his right mind would deliberately fly such maneuvers, but it was inconceivable to make someone a copilot — let alone an AC — unless he could successfully handle those situations. I was baffled.

"Sounds awfully dangerous," I managed, finally.

"Actually, training was our safest operation. Never had a major accident in all those years of 'bounce-and-goes,' probably because the instructors operated under the basic premise that all students were out to kill them. It made them very alert, very professional. Where we got in trouble was flying the line. Flying the same routes and to the same bases sometimes created a feeling of 'it can't happen to me,' at which point it usually did.

"Of course, there were other problems too. Sometimes a maintenance troop got rushed or thought he had total recall and didn't use a tech order to put something back together. Back then we didn't have bolts that changed color at different torques, or thumpers to find loose objects in closed areas. And there were parts that could be installed two ways, but only worked one way — 'Murphies,' we called 'em. In short, maintenance was a lot tougher than it is now, and things that got done without a tech order had a way of coming undone ten minutes before the equal time point. It sometimes made for hard feelings between aircrews and maintenance personnel.

"Of course, there were also a lot of hard — and hurt — feelings when a well maintained airplane got scattered over a large area due to pilot error. And even worse ones, if a plane and crew were

lost because the rules — operating instructions, approach plates, tech orders and so on — were wrong. That was called 'supervisory error'.

"So there were four main areas we had to work on: original design, maintenance, pilot, and supervisory skills, but for awhile it seemed like we were just spinning our wheels. People kept making the same mistakes over and over again. But finally, slowly, like the campaign to reduce smoking or air pollution, we began to see some results. As you probably know, next August, if we keep up our efforts, MAC will be ten years accident-free."

Our conversation was ended by the East Pacific controller clearing us for descent at Hickam. I acknowledged and the colonel called for the descent checklist. At the end, under "Circuit breakers—checked," we found our first real problem of the flight: the breaker was popped on the bird chaser.

For those of you who don't fly jets, a bird chaser is a device similar to radar, but it doesn't receive — it just transmits, on three slightly different frequencies around 10gHz, in a cone along the aircraft's flight path. The frequencies correspond to a wave length about the size of a bird's head, and any bird touched by the beam wants to be somewhere else in a hurry.

The last MAC accident, nearly ten years ago, was caused at least partially by an inoperative chaser. The accident aircraft had shut one engine down at altitude for low oil pressure and was six miles out on final when it flew through a large flock of starlings and lost two of the remaining three engines. The AC managed to keep it flying until reaching the fence, and, fortunately was slightly off centerline when the aircraft hit, shearing three "approach light towers" with the left wing. (They used to have the approach lights mounted on steel towers just off the overrun. Incredible!) Thanks to a thorough breifing, 24 of 27 passengers and crew got out with only minor injuries before fire destroyed the aircraft. Investigation showed the bird-chaser circuit breaker had popped sometime after takeoff.

A freak accident? You bet. Every accident in the last 15 years has been just as freaky. But it **was** preventable, and the supervisors bought it with design as a contributing factor. So now we check circuit breakers before descent and restart any engine that's been shut down for low oil pressure. But we do this only after the computer shows we're more likely to lose one of the engines than to damage the idling engine through oil starvation. But if we do get in a bind, we've got that engine going when it's needed. Oh, we also have a "bird-chaser inop" light added to the caution panel.

All of these were easy fixes, and obvious, too — at least with the benefit of hindsight. Why did it cost three lives and an airplane before they were made? Of the hundreds of crew members who must have stumbled onto one of those ideas years before, why didn't one write an HR, or an 847, or at least leave a note in the safety officer's vertical file?

It's hard to understand the attitudes of some of those early fliers. With none of our sophisticated technology to help them stay alive, you'd think they'd have been a lot more concerned about procedures and things they could do something about. I understand some of the old flying safety magazines used the slogan, "Every man a flying safety officer." Guess a lot of people didn't believe it was worth it.

A question from the old man brought me back to reality. "What would you do now if you were the AC?" he asked. Fortunately, the last weekly situation exam had covered a similar predicament.

"I'd look in the relative danger tables of 55-1 to see if we're more likely to suffer a critical birdstrike if we leave the chaser off or a fire if we reset it." Nothing like a textbook answer to a flight examiner's favorite weird question.

Well, the book said "reset," and we did. And the remainder of the mission — including my first live approach and landing — was strictly routine. But it was a couple of days before I could say what all I'd learned.

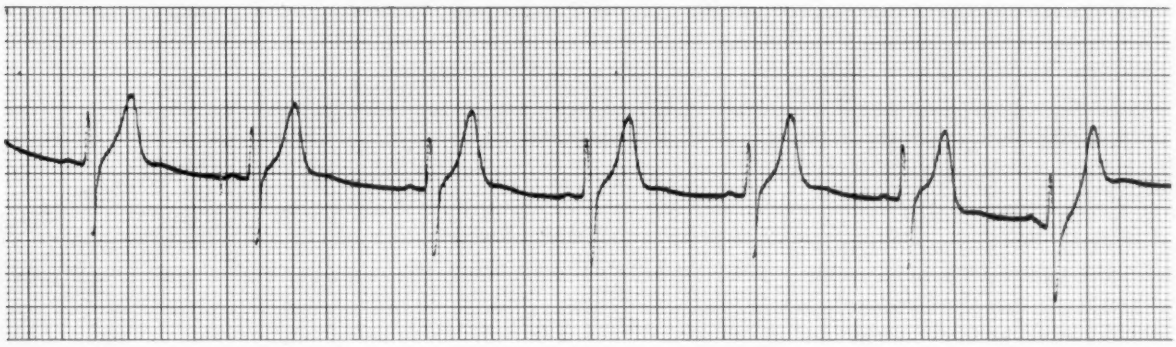
For one thing, I had a new respect for anyone who'd lived through those hazardous years of the early jet age. Flying was really dangerous back then! And I had a better feeling for the "why" behind some of our current procedures.

And I found out what a Gooney Bird is.

ABOUT THE AUTHOR

Capt Findeiss graduated from the U.S. Air Force Academy in 1968. After completing UPT at Moody AFB, Georgia, he was assigned to Travis AFB as a C-141 pilot. He currently flies HH-53s with the 40th ARRS, Nakhon Phanom Airport, Thailand.

Dear Doc



Dear Doc,

I'm a 40-year old pilot with problems. Would you read this and tell me what you think is wrong with me?

The last few weeks have been awful. We've been working long hours in the squadron trying to get ready for an ORI. Many days I fly local and then work another eight hours in the office. I've been giving some line checks too, but when we get back from a trip, I never take any time off. We've got too much to do. I don't even get on the golf course anymore. I'm pretty uptight most of the time, but if I can hold on for awhile, I may get a shot at the ops officer job.

Here's what is really bothering me: Two days ago we were coming in from an overseas mission. About three hours out I started getting this bad pain in my back. In a few minutes it localized in my chest under my left rib cage. It felt like indigestion, but I hadn't eaten anything unusual. As soon as we cleared customs, I headed for home and went to bed. My temperature climbed to 102 degrees. At first I thought it was the flu bug. Yesterday was Sunday, so I stayed in bed till noon. Last night the pain had gone but this morning it returned and now my left arm hurts.

I'm 15 pounds overweight by Air Force standards, but I'll get under the wire by annual physical time — I always do.

My wife says she thinks I might have heart problems. That would mean grounding and no chance to be ops officer. Would you tell me what you think?

Please keep this anonymous. I don't want the commander to hear about it for obvious reasons. Could my wife be right?

Dear Anonymous,

I wouldn't attempt to diagnose your problem through the mail, but your wife may be very perceptive. You have the potential for staying on your back for a long time if you don't get help.

The symptoms you describe could be the classic symptoms of a heart attack. I recommend that you take a couple of hours off immediately and come to the Flight Surgeon's Office. We'll give you a thorough checkup and maybe save your life.

You're not unusual. You think you have to set the world on fire by working long hours under the stress of the job. But you're not compensating for this stress with a proper diet and exercise. If you're not exercising, you should be eating less.

If it turns out that you don't have heart problems, it will still pay you to take precautions to prevent problems in the future. The Air Force aerobics program may not appeal to you, but it is designed to provide us with the necessary physical conditioning to keep our bodies healthy. If you haven't started the program, or an exercise program of your own, you should. Let us see you first, though. When you do start the program, take it easy. You must start slowly and build up to your peak.

Stress on the job or at home, eating and drinking too much of the wrong kinds of foods or beverages and not getting proper rest and exercise — these can knock you out of the running for that ops job and any other future assignment. I suggest you re-evaluate your habits before your body does it for you.

See you soon?

DOC

A Matter of Life and

This is not a true story; however, it was written to point out some of the very real self-made hazards that occasionally surface during airborne missions.

Beyond the coastline — an overdue fighter. A helicopter scrambles, but the thrill of a possible rescue proves more than the crew can handle.

It was so quick that no one really seemed quite sure what happened. Just too quick. And there was no way for any of us to know that Remmiwis was a poor swimmer.

The mission had been rushed to begin with. I know what you're thinking. Most actual rescue missions are. But I'll stick to what I just said. Too damned rushed.

We got the word from the Tactical Fighter Wing Command Post. A fighter was 45 minutes overdue and its fuel would have been expended by now. That's all the Command Post knew, except that he was last reported over the sea, about ten miles from shore.

We sat there in the ops room talking, waiting for the scramble. I wasn't on the alert crew. A copilot wasn't required for alert in VFR, daylight operations. I don't know the reason for the delay in launching — to check out all possible landing fields the plane might have gone into, I guess. Then came the call to go. A base support aircraft had spotted what appeared to be a life raft.

You can't imagine how that affected the crew. I was brand new in the detachment and had never even flown local, but an overwater mission required a copilot and suddenly I was it. We were going to make a pickup. That fact in itself seemed to make every minute of detachment boredom worthwhile. And if there were one raft in the water, there probably was another nearby because there was also a backseater in the aircraft.

Our aircraft commander gave

Death at Sea

by Lt Col John W. Ray
Supervising Editor

a quick five-second briefing as we scrambled toward the helicopter. Yes, we were rushed.

"Pedro Two, cleared for takeoff. Wind 160 degrees, five knots."

Believe me, everything on the airfield stopped as our H-43 lifted up into a hover. There wasn't a person standing on or near the flight line who didn't stop to watch. They knew where we were going, and there was no doubt that within an hour or so we would be returning to that same spot with two wet fighter jocks in the back of our bird.

I had never flown a helicopter over water before, unless you can call flying over the Red River in Texas an overwater flight. The aircraft commander was pretty new at it, too — a captain, just checked out a few weeks earlier. I didn't mind that, though. I had six hundred hours of chopper time, and ten times that in fixed wings. No sweat there.

We were twenty miles south of the base, about halfway to the spot where the raft was spotted, when I got another inkling that things weren't going to be exactly as advertised.

"Got enough water back there? Those guys are going to be mighty thirsty after being in the hot sun this long," I said.

There was a long silence. I felt the aircraft commander's stare. I wasn't sure whether he was wondering about the water, too, or whether I had asked an embarrassing question. It turned out to be the latter.

"No, sir," the flight mechanic answered, "the canned water never came in from supply. It's written up in the forms."

I was amazed. Waiting for water? Who said it had to be in cans? I'll bet supply had canteens. Nothing wrong with canteens or anything that would hold water, I thought. I didn't say anything, though, just swore silently. But from that time on I started monitoring altitude, airspeed, and engine instruments more closely. I just had a feeling.

"Pedro Two, turn right to one-nine-zero degrees. The area where the raft was spotted should be in your twelve o'clock position at about ten miles," Departure Control directed, "I'm losing radar contact now. Good luck."

I switched to the Command Post frequency just as we departed landfall. The sun was about 20 degrees from the hazy horizon, and we estimated there was about an hour and a half of daylight left. I was flying the chopper now, at about 75 knots, and called for the hoist operator to run his checklist.

About ten miles off shore we spotted the raft — three hundred feet below us. Was there someone in it? We couldn't tell. The aircraft commander took the chopper and was making a turn over the raft for another pass.

I looked at the altimeter and sat up in my seat. We were at a hundred feet and descending in a 180 degree turn! The airspeed had dropped to 30 knots! Much too low and slow. The pilot not only wasn't flying a pattern, he was letting us fall out of the sky! I was afraid we would hit the raft. What was the wind direction? We hadn't even dropped smoke to find out.

By this time I was calling for the pilot to pull in some power

and increase the airspeed. No response. I yelled and pointed at the altimeter. But he was looking in the other direction, down at the raft, as we sailed by at something like twenty knots and fifty feet. He added power and pulled back up to about 200 feet. That's when I discovered that my headset had come unplugged and no one had heard anything I had said since we sighted the raft.

The pilot agreed we should drop some smoke to mark the raft since we were having problems relocating it. It was during the smoke drop that I saw there was no one in the raft.

We reported to the Command Post and the controller said the commander wanted us to recover the raft and return it to base.

Oddly enough, my first reaction to the request was that I, for one, didn't know how to recover a raft from the sea. Procedure for picking up a survivor from the water we had been taught, but a raft —

"What are you going to do?" I asked the aircraft commander.

"Going down to pick it up," he answered, matter of factly. "You can fly the helicopter and I'll look out the door and help you position over the raft."

"Let me go down," the medic broke in. "I'm probably the strongest. The raft is full of water and will weigh a ton. I'll ride the hoist down, pick up the raft, and Smitty can bring us both up on the hoist."

"Can you swim?" I asked.

"I've got my life jacket on."

"Can you swim?" I repeated. He hesitated before answering.

"Sure. Anyway, I've got my life vest on." He was anxious to go down.

I didn't feel quite right about our sending the medic down into the water to recover a water-filled raft, but I was just the copilot and it seemed the thing to do at the time. After all, we didn't have a P.J. And we hadn't discussed sending anyone into the water. We had been in too big of a hurry for that.

Difficult isn't the word for establishing a hover over the raft. It was almost impossible. The rotor wash kept blowing the raft forward and we just couldn't seem to catch it. I never saw it after we got within ten feet of it, but I finally heard the magic word "Hover" from the hoist operator. We were directly over it.

The medic got on the hoist and Smitty began lowering him into the sea. The water was becoming murky as the sun began to set behind a haze layer.

We hovered for a minute or so, and I could tell by the interphone conversation between Smitty and the AC that the medic was having trouble lifting the raft. It was full of water. He was going to have to use both hands to get it up.

My right hand had clutched the cyclic in a death-like grip for about five minutes and ached terribly. I asked the AC to take the helicopter for awhile. That's when we heard Smitty's shout.

"He's in the water. Remmiwis fell into the water. You're drifting forward. Back ten feet. Back fifteen feet. Back, Sir. I've lost sight of him."

That was the last anyone ever saw of Remmiwis — alive. We hovered over the entire area trying to find him. But the raft he dropped into the water sank, so we lost our reference spot. We searched until it was too dark to see anything.

His body, and those of the fighter pilots, washed ashore three days later. Remmiwis' life vest was not inflated. Its CO_2 cylinders had not been installed. Why hadn't he inflated it manually? Perhaps he didn't have time. The accident investigation board questioned some of his friends and found that Remmiwis was a very poor swimmer.

We told the story just as it happened. Our crew was placed at fault and supervisory error was listed as a major contributor. But that's not what bothers me so much. What really gets to me is that we lost a man trying to pick up a raft that couldn't mean a hell of a lot to anybody. Had there been a survivor in the raft, it would have been a different story.

If you've ever flown in Rescue you probably can pick out a few rules we violated. But our big error was that we really didn't think about what we were doing. We were so anxious to do something worthwhile that we let this cloud our judgment. And there's no substitute for judgment.

Although I was new in the unit, I feel I was actually more to blame than the other crew members. The way the mission was being run should have told me something. I actually knew we were taking a needless risk and didn't stop it. I had a feeling. Remmiwis, himself, indicated he wasn't a good swimmer when I asked him about it. I'll never forget that long hesitation between the time I asked him if he could swim and his answer: "Sure, anyway, I've got my life vest on."

Global Notes

MAC individual award winners

Several MAC officers were recently cited for extraordinary performance while experiencing a variety of inflight emergencies. Their prompt analysis, skill, and professionalism prevented injuries to crew and passengers and averted damage to valuable aircraft.

Capt Maurice L. Martin, Jr., and 1Lt Michael D. Archer, 39 ARRS, Thule AB, Greenland — During GCA final, their HH-3 Jolly Green helicopter began a rapid rotation to the right due to a failed tail rotor control cable. Despite the emergency, total darkness, and blowing snow, Capt Martin and Lt Archer safely landed the helicopter. (Good Show, THE MAC FLYER, May 1974)

1Lt Russell G. Hill and 1Lt Steven N. Ulosevich, 1550 FTS, Hill AFB, Utah — Engine and fuel flow fluctuations prompted the pilots to initiate a precautionary landing during a cross-country flight. But before they could land, the gas turbine engine flamed out 200 feet above the chosen site. The pilots entered an immediate autorotation and safely landed the crippled craft. Anything less than instantaneous response could have resulted in injury to the crew and loss of the aircraft.

1Lt Steven N. Ulosevich, 1550 FTS, Hill AFB, Utah, again averted an accident through professional airmanship while flying a TH-1F on a night transition mission. Lt Ulosevich noticed the oil pressure and master caution lights for the speed decreaser gearbox illuminate. As he reduced engine power for an emergency landing, SDG oil pressure dropped to zero, but he got the bird safely on the ground.

1Lt Bruce A. Tollefson, Det. 3, 37 ARRS, Grand Forks AFB, ND— During a UH-1F ferry flight, the crew chief alerted Lt Tollefson to an illuminated transmission oil pressure caution light. Quickly scanning transmission gages, he saw the oil pressure decreasing. Initiating a descending turn into the wind for a forced landing, Lt Tollefson completed a power on approach to a safe touchdown.

Capt Stanley R. Menze, Det 15, 43 ARRS, Myrtle Beach AFB, SC — Returning to home base during a passenger support mission, Capt Menze observed the chip detecter light on number two engine illuminate. He immediately reduced power on his UH-1N and decided to land at a small airport to investigate the problem. Approximately eight miles from the airport, number one, his good engine, failed. While autorotating to a rough landing spot, Capt Menze restored power on number two in order to cushion the landing. Although his site selection was limited to one bordered by high trees and power lines, he made a safe landing without injuries or aircraft damage.

Capt Edward A. Delorey, 11 AAS, Scott AFB, Illinois, — Just prior to go speed on takeoff roll, Capt Delorey heard a loud noise and his C-9 began veering left. Suspecting a blown tire, he initiated abort procedures but number one thrust reverser wouldn't function properly. Observing number one EGT at 600°C, Capt Delorey returned the throttle to the forward idle position and pulled number one fire handle as a precaution. Correcting back to runway centerline, he stopped the aircraft with 2,500 feet remaining, preventing injury to patients, passengers, and crew.

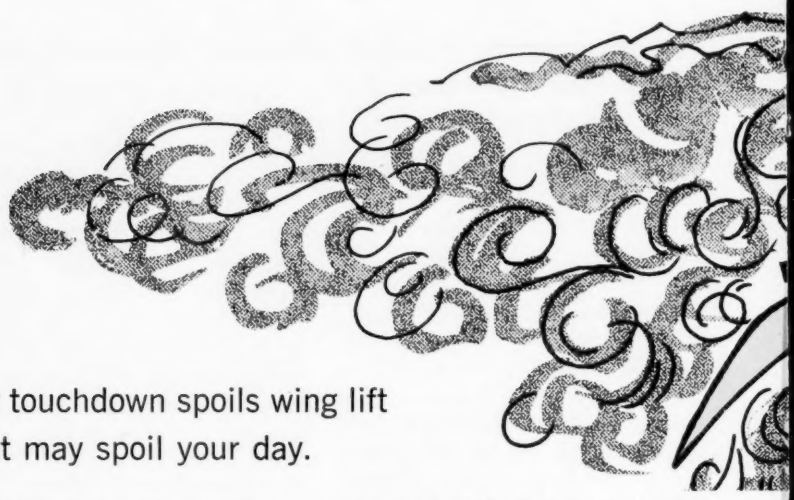
76 MAS: number one in MAC

Adding yet another trophy to its long list of achievements, the 76th MAS, Charleston AFB, SC, has been named the Outstanding Airlift Squadron in MAC for 1973. Pitted against stiff competition, the 76th scored high marks during its Operational Readiness Inspection in three critical areas: command and control, deployment, and support areas. The 76th also played a major role in winning the MAC Commanders' Facilities Inspection for the base.

Over a year ago, this squadron celebrated its 20th anniversary and throughout the entire span of its operations, in which it has logged more than 600,000 flying hours, the 76th has never experienced an aircraft accident.

Mishap with a Moral:

Spoilers



Deploying ground spoilers after touchdown spoils wing lift but untimely extension in flight may spoil your day.

As the term applies, ground spoilers are designed to be deployed only on the ground, but occasionally, lapses in procedure and short circuited habit patterns account for unwanted spoiler deployment while an aircraft is still airborne. Improper spoiler activation has caused several major jet transport accidents over the years. This is an account of one of them.

Less than four minutes from touchdown, the copilot of a DC-8 acknowledged landing clearance to tower. The captain called for full flaps and final landing checklist. Reading the checklist, the flight engineer called off line items to which the copilot acted and responded. When the flight engineer called for ground spoiler arming, the captain directed the copilot to delay arming the spoilers until just prior to touchdown.

Before completion of the before landing checklist, the flight engineer entered a discussion with the two pilots on manual and automatic spoiler deployment procedures. Apparently there was some question pertaining to the operation of the ground spoiler lever.

In this type of aircraft, ground spoiler arming is accomplished by advancing the spoiler lever from the disarmed position forward and lifting it. Manual deployment on the ground requires full aft positioning of the lever. In-flight deployment is also possible by pulling the lever aft from the armed or disarmed detent. To do this in flight, however, requires a force of 35 pounds which is normally a deterrent to such abnormal action.

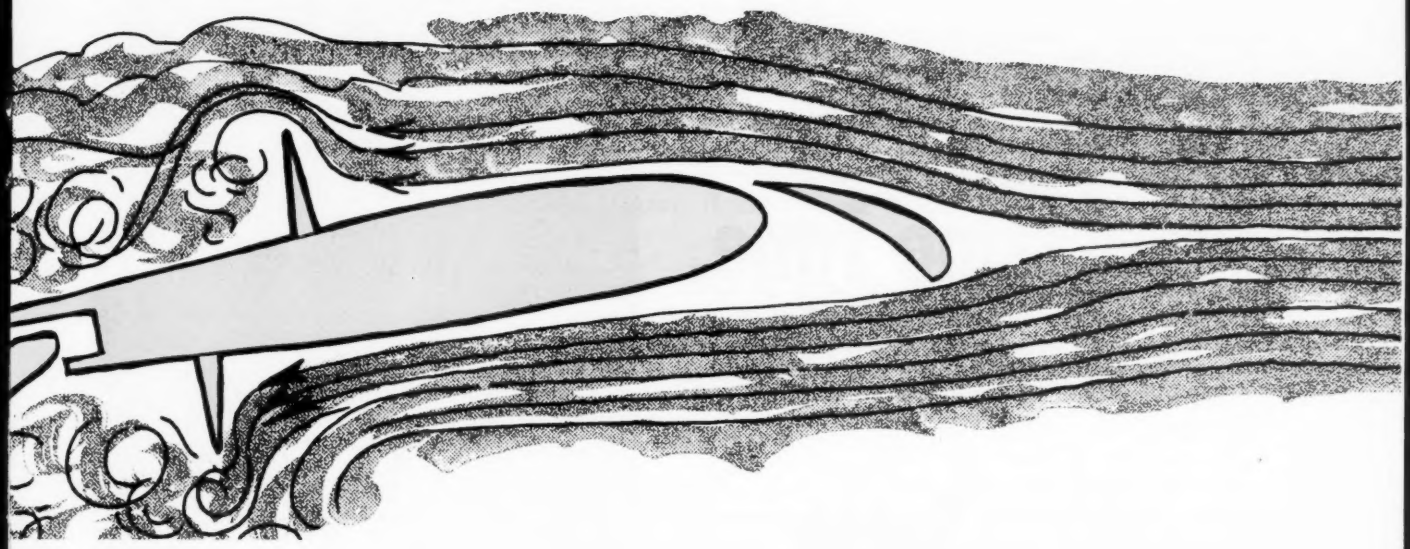
Following the discussion, the captain confirmed landing clearance with the copilot and asked if the checklist had been completed. After a quick gear and flap check, the copilot responded that the checklist was completed except for spoiler arming. Passing the middle marker on the final portion of the ILS approach, the flight engineer asked if the spoilers were armed.

"No, not yet . . . ," replied the captain.

Four and a half seconds later, and three and a half seconds to touchdown, the captain ordered, "Okay, arm them."

Reaching to the left of his seat, the copilot positioned both hands on the lever. In his haste to arm the spoilers before touchdown, he apparently exerted enough rearward pressure (35 pounds) to fully deploy the ground spoilers. Attempting to prevent

Too Soon



the copilot from improperly activating the spoilers, the flight engineer shouted, "No! No! No! No! No!"

But it was too late. The spoilers fully deployed in less than a second.

With sink rate rapidly increasing and airspeed decreasing, the jet liner impacted tail first in a nose high attitude 20 feet short of the runway. Number one engine separated from the left wing and the main landing gear collapsed beneath the amplified load of impact. Sliding onto the runway, a fire warning light flashed in the cockpit as electrical wires dangling from number one pylon ignited fuel from a ruptured fuel line. Wings and fuselage buckled as the aircraft scraped and screeched to a grinding halt more than 6,000 feet down the runway.

All but one passenger and most of the crew evacuated the aircraft through the two right escape doors and left rear entry door. One seriously injured passenger and the captain were evacuated by a galley service vehicle. Six other passengers and two crewmembers experienced serious injuries. There were no fatalities.

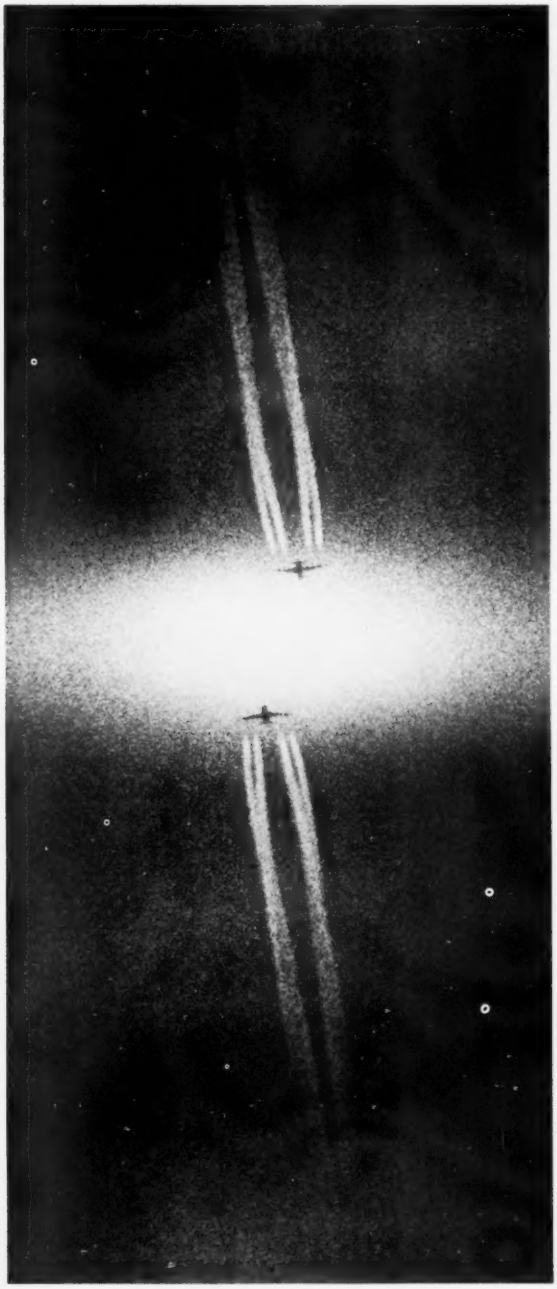
Moral

Investigators identified the decision to arm the ground spoilers out of checklist sequence and the copilot's inadvertent deployment of the spoilers as major factors in this accident. Had the crew accomplished the before landing checklist in the prescribed sequence, the spoilers would have been armed at an altitude of approximately 1,000 feet above the ground. In the event of an unwanted deployment at this altitude, there would have been sufficient time to recover. Investigators could find no reason for the captain's decision to arm the spoilers so close to the ground.

In nearly all military and civil jet transports, before landing checklists are designed for completion when position, altitude, and time remaining to touchdown permit methodical, sequential checklist accomplishment. Checklist items serve as an infallible reference and cue for all crew members to prepare and ready their aircraft for any given phase of flight. Checklist deviations, omissions, and unwarranted delays may catch both crew and aircraft unprepared.

Traffic control in some areas of the world is not always what you hope for. Two crews nearly discovered this at the . . .

Same Time, Same Place, Same Flight Level



Not far off the Gulf and Southeast Coasts begins a jungle network of nonradar oceanic airways that fan outward from the U. S. mainland throughout the Caribbean to the northern shores of South America. More than a dozen Flight Information Regions (FIRs), tightly compressed within the Caribbean area, are responsible for assisting, spacing, and sequencing a large volume of international flights. Language difficulties, communications equipment deficiencies, and possibly the political climate of a few Latin American countries sometime affect the safe, orderly flow of air traffic in these FIRs.

Not long ago, in one of these FIRs, two flights proceeding in opposite directions to and from destinations in Central America almost arrived at the same fix at the same time and altitude. Less than an hour from touchdown at its Florida destination, the northbound flight, maintaining flight level 350, gave its 0240Z position report on HF. Jetting southbound at the same flight level, the other aircraft transmitted an estimate of 0250Z for the same reporting point.

A traffic coordinator at a USAF HF aeronautical station recognized the possibility of a mid-air. The time was 0224Z so the controller quickly advised the southbound aircraft of the situation and got it a clearance from Miami Center for flight level of 390. At 0236Z, the aircraft reported level at 390. A few minutes later the two aircraft converged northeast of the reporting point — but now there was 4,000 feet separation.

This watchful duty controller possibly saved two crews and two valuable aircraft. If the controller had missed the position report from either of these aircraft, the conflict might have gone undetected until discovery of two overdue position reports.

Monitoring HF static, Sky Kings, and other ear-piercing HF radio interference is no fun, but it's good practice to keep track of other air traffic. Cockpit duties permitting, keep a log of other aircraft positions, flight levels, and ETA s in the vicinity of your own flight route. If the track of another aircraft conflicts with your own, get on the horn and notify the HF controlling agency right away for immediate clearance to climb, descend, or deviate. It might be appropriate to call the conflicting flight on the working HF frequency, 121.5 VHF, or 243.0 UHF, and let the other guy know you're in the area.

Perhaps, in the future, positive radar flight following over oceanic air routes will eliminate the need for nagging HF position reporting — but not until some bright electronic whiz figures out a way to bounce transponder codes and aircraft VHF frequencies off a synchronous satellite.

The air space in Latin America is not the only place where MAC crews may encounter potentially dangerous situations or communications hassles. A couple of months ago two Air Force crews operating in the Mediterranean area received what amounted to hazardous run-arounds from foreign ground controllers.

A C-141 was approaching an airway fix short of destination, but the enroute airway controller would neither confirm nor deny that the fix was its clearance limit and refused to say whether or not the aircraft was to hold at the fix. The controller ignored repeated crew requests for clearance clarification and further clearance information. When the C-141 reached the fix the controller directed the pilot to contact approach control on another frequency. The pilot, already in a self-initiated holding pattern anticipating further clearance, contacted approach control. The approach control acknowledged the pilot's call and cleared the aircraft to enter holding at this fix — after the fact.

In another traffic hassle, the pilot of a landing Air Force aircraft was directed by tower to expedite rollout to the end of the runway. Not an unusual request. But after passing the 7,000-foot marker, the pilots heard a garbled tower transmission apparently directing them to give way to a domestic 707 which was taxiing on a commercial ramp parallel to the runway. The crew requested confirmation of this transmission. The tower answered and told the bird to continue to the end. Looking to his left, the pilot saw that the wing of the airliner was overlapping the active runway. Not sure whether or not the airliner was going to turn onto the runway, the Air Force pilot veered his aircraft sharply to the right side of the runway to avoid a potential collision.

Less than ideal cooperation, communications, and air traffic "priorities" in many areas of the world can create unpleasant moments in the cockpit.

MAC/IG is working with other commands to gain better cooperation from controllers at foreign civil airports. But MAC crews should be aware that undesirable conditions do exist and stay spring-loaded for the unexpected.

Strang

by Maj Russ C

Do helicopters talk? language that's som

The short flight started out as a routine potato and people resupply run to a mountain top radar site on Okino Island, north of Okinawa. We loaded the HH-3E Jolly Green up with the usual mix of passengers and cargo at Kadena AB. Checklists were run, engines started, and the rotors engaged.

Near perfect weather greeted our takeoff and departure. Cool temperatures, a few scattered clouds over the main island, and clear skies over the ocean en route to Okino were the makings of a made-to-order sight-seeing flight. Multi-colored surf, emerald green shallows, and verdant islands commanded perhaps more attention than the job at hand.

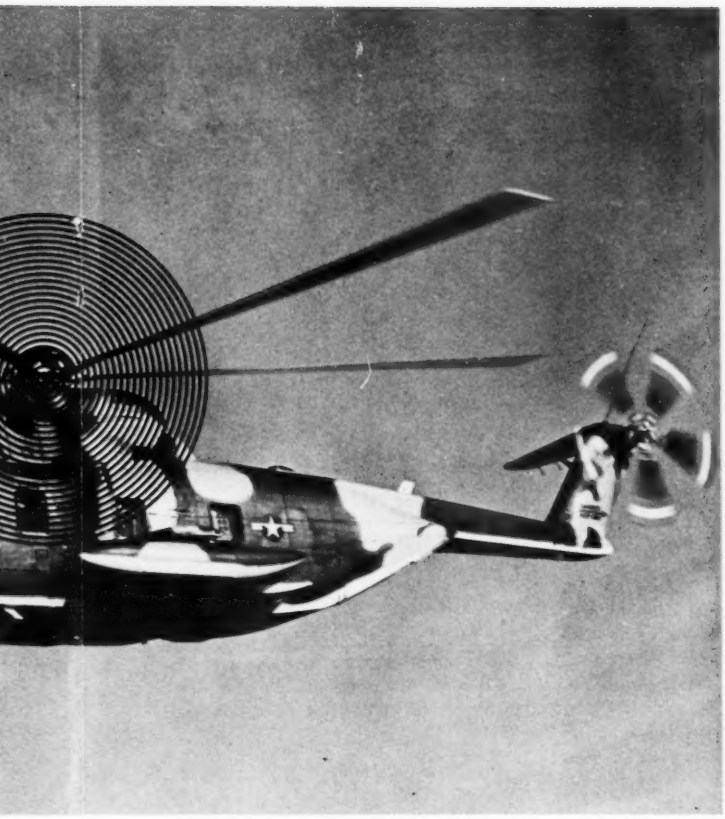
After clearing north of the main island and well out over open sea, the flight mechanic commented about a problem that had started to gnaw at the back of our minds. A strange noise, a vibration — we couldn't tell which — was gradually increasing. But it was nothing we could put our finger on. Cockpit instruments and system warning indicators said "press on." But the unwelcome symptom of possible trouble-to-come teased away. The chopper just didn't feel right. Sound and vibration levels normally felt in the H-3 were undergoing subtle changes. The East China Sea, hardly a location for a precautionary landing, prompted some hectic troubleshooting and scanning.

Increasing and decreasing collective had no effect on this perplexing sound. Back in the main cabin, the helicopter mechanic listened and touched various components, attempting to pin down the origin of this nagging noise. Again, engine and rotor r.p.m. were varied but the problem persisted. The sound seemed to move in concert with our isolation attempts. Something as variable as that must surely be a product of our imaginations, we thought. But to be on the safe side we decided to give the bird a good going over after landing at Okino.

We flew our approach to the mountain top helipad and landed without incident. Nothing further occurred that would give us a clue to the cause of our supposed problem. After the rotors stopped turning, we offloaded the passengers and cargo and stuck around long enough to be invited to lunch.

Returning later to the helicopter, we loaded cargo, briefed the passengers, and thoroughly checked the aircraft topside before the return flight to Kadena. Finding nothing out of the ordinary, we climbed aboard, strapped in, and began bringing the bird to life. An airman from the radar site and our helicopter mechanic performed fireguard duties during engine start and rotor engagement.

Seconds after signaling the mechanic to come



ge Noises

uss Cayler, MAC/IGFF, Scott AFB, IL

lk? You bet they do, but in a
ometimes difficult to translate.

aboard, all hell broke loose. In rapid sequence, a loud bang sounded, number one engine fire light illuminated, and the remaining fireguard scrambled for the fire extinguisher. In the cockpit, one quick look at engine gages and warning lights prompted a flury of activity. Engines were shut down, rotors secured, and crew and passengers quickly evacuated from the aircraft. Once the dust settled, we climbed topside and opened engine access panels for a look.

We soon found the cause of all the heartburn — a fractured engine "short shaft" (drive shaft). Rotating at 6,000 r.p.m. it disintegrated at a universal type joint and scattered shrapnel through the fuselage into the main cabin below. Luckily, there were no passengers sitting in seats directly below the line of fire. Functioning also as the rear engine support, the failed drive shaft allowed the engine to drop and jam the spinning compressor. More probing led us to a badly damaged main transmission. There we were — on top of a mountain with a ruined engine, fractured drive shaft, and a screwed up transmission — a million miles from suitable maintenance. It's no easy task to remove and replace a hefty main transmission and engine even at home station, let alone a remote mountain top. Our unit got the bird back to Kadena a week later.

To say we were lucky is an understatement. If the shaft had failed a minute or so later during takeoff, we probably would have cut a new hiking trail down the mountainside. Helicopter weight, takeoff profile, and temperature would have made level flight and obstacle clearance on one engine virtually impossible. Hindsight is 20-20, but when we initially detected symptoms that all was not well we should have headed back to the barn.

Small signals may sometimes create an uncomfortable feeling that something really bad is about to happen. If you can't quite put your finger on what may be wrong with your sling-wing machine, it might pay to bring it back for expert analysis.

Whatever else you may do, don't disregard those little noises that give you cause for doubt while airborne. Strange noises often do a lot of talking.

ABOUT THE AUTHOR

Maj Cayler graduated from Drake University in 1963 and shortly afterward entered UPT. He has accumulated over 2,300 hours in H-19, H-3, and HH-53 aircraft. Maj Cayler is currently a Weapons Systems Safety Manager for the HH-3/HH-53 aircraft at the MAC Safety Directorate.

Letters To The Editor

Aerodynamic Trip

A touch of aesthetics and soaring exaltation are mine whenever I stop (as often I have) to turn myself into a vigilant observer of some magnificent bird. With all the enthusiasm of an oncoming cheerleader, I stand to greet the plane with handclapping upon its arrival and cheers on its departure. No one perhaps is aware of my abiding regard but I am in complete harmony with the roar of engines twining, the every curvature of the plane, the upswoop of silver wings into a glittering day or misty eve.

But it is not just the migratory habits of this bird species that propels my cerebration into aerodynamics. To create a fuselage in one's mind concerning the concept of three dimensional perception is also my desire.

I inquired of a pilot upon a routine orientation of the base concerning his emotions toward his profession and the plane. I was thoroughly disappointed. It is possible he failed to consume his wheaties that morning but I feel certain the negative attitude lay elsewhere.

Frequently we blend into our environment and avocation. Thus, through amblyopic eyes we unconsciously view the world. When was the last time we really gazed at this prismatic sphere of the universe called earth, saw the ant on the ground or the bird in the sky?

A pilot must learn to appreciate the sensations of touch, from his control panels to the very seat in which he resides. He must become intimate with sound as if it were magnified a hundred times. He must learn to appreciate his plane and profession with authentic pride and not as some inflated ego trip. For although his plane would make excellent scrap ferrous, it also signifies a beautiful and powerful entity that deserves recognition.

Upon response to external conditions and the objects which are an integral part of us, we then evolve to cognizant awareness.

Conclusively, awareness breeds comprehension, responsiveness, and vigilance. So evaluate your animated disposition and prickle your consciousness into a crystal focus. It is possible you are not visualizing to the full extent of your potential.

Sandra K. Lowthrop
Norton AFB, CA

★ **MAC crew members will be interested to know that their profession is held in such high esteem. In reference to the pilot with whom you spoke, it is highly unlikely that his "negative attitude" represented more than a very small number of Air Force pilots. On the other hand, perhaps the pilot was simply trying to impress you with an "Oh, it's nothing much," approach.**

Who Cares?

Who cares? We do, MAC flight crews, that's who. As a crew member, I'm tired of taking the blame for poor handling

of passengers. Maybe, THE MAC FLYER staff or even the MAC commander's staff ought to take a closer look at the way passengers are being treated. It seems to me the only ones that give a damn about what happens to the passengers are the people who you

write unfavorable comments about.

How many times have passengers had to wait at the aircraft because Pax Service was not there to meet us as we arrived after eight hours' flying time? The flight crew has done what they're supposed to do by notifying the Operations Center of their arrival time and how many paxs are aboard. Altogether too many times I have had a passenger come up to me asking for his inflight meal only to find out there were only ten lunches put on the aircraft, but twelve people have receipts that they had paid for meals. Who cares now?

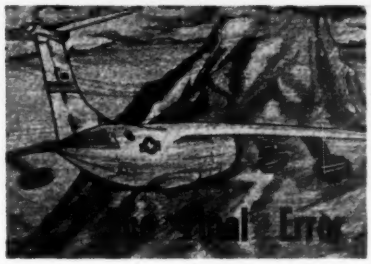
How many times have we seen 70 passengers getting off a C-141 through the crew entrance door which is only 59 inches tall and has a very steep ladder going down. Yet if one checked a little further one would find out that the pilot requested that a maintenance stand be pushed up to the rear troop door to ease passenger offloading. Oh yes, the loadmaster does get a little upset when the pax bus comes out and each of the passengers is carrying his own duffel bag or other luggage because the baggage handlers were on their lunch hour or playing pinochle somewhere in the back room. Or on the courier mission from Travis to McGuire when more baggage comes onboard the aircraft via the passengers than is loaded in the baggage pallet in the rear of the airplane.

The list of irritants could go on and on but that is not what I intended to do. What I really want to say is that as professional MAC air crews, "We really move our tails for you with everything we have available." Not as you depict us, as you did, in "Who Cares?"

William J. Birney, TSgt, USAF
C-141 Aircraft Loadmaster
4 Mil Alft Sq
McChord AFB, WA

★ Come on now, Sarge. You don't mean to say you've never seen a MAC crew mishandle passengers — not intentionally, of course, but mishandled nevertheless. The article was not pointing a finger at **all** or even **many** MAC crews. But it does happen. By and large, MAC crews take excellent care of their pax. But as the story pointed out, it only takes one instance to blemish a favorable image. Your suggestion that COMAC take a closer look at passenger treatment sounds like clairvoyance. At this writing, MAC is taking a very close look at passenger handling, particularly in MAC passenger terminals.

Altitude Error



I thoroughly enjoy reading THE MAC FLYER and realize its potential to put information into "THE SYSTEM" in a very effective manner. I would like to point out an error in the article, "The Final Error." (THE MAC FLYER, Mar 74)

The item under "Discipline" pointed out that the crew erred when they left the altimeters set at 29.92 instead of 30.17. True, but in this case the error was IN FAVOR OF THE CREW. Had 30.17 been set, the altimeter would have read 250 feet higher, that is 3,250 feet instead of 3,000 feet. Thus, the aircraft would have been 250 feet lower if the pilot were maintaining an indicated 3,000 feet. If this had been done, the aircraft would have impacted below the plateau instead of the gentle contact that actually occured.

A point to ponder for all of us is that the aircraft altimeters showed that had the pilot been exactly on altitude with 29.92 set, he would have cleared the plateau by 60 feet. He was actually flying 2,840 — only 160 feet off the altitude he thought he was assigned!

I hope I have stirred some people into reading AFM 51-37 to see if I am correct. Looking forward to reading more timely and educational articles.

Anthony J. Oliva, Maj, USAF
Chief, Command Post
611 Mil Alft Spt Sq
Osan AB, Korea

★ Your math is as correct as your eyes are sharp. The point of the story is that had the crew followed established procedures, they would have been aware of the minimum sector altitude and the initial approach altitude. This awareness would very likely have cued the pilot to stay above what he thought was his newly assigned altitude and prevented this final error.

"Load: Six Pallets

Keeping MAC aircrews honed to a sharp edge in a peacetime environment often means flying with less than optimum ACL.

by Maj Dan Hunter, MAC/DOOA, Scott AFB, IL

It doesn't take a genius to figure out that MAC transports aren't exactly bulging with the tons of cargo that they were a few years ago.

But you may be surprised to learn that in our present peacetime environment, any cargo you find on your bird may be simply a by-product of training requirements.

If you think that sounds like the tail wagging the dog, you couldn't be more wrong. The name of the MAC game during normal, peacetime operations is training — and retaining the capability to respond to the demands of war or other unusual requirements.

With a few exceptions, such as the Israeli airlift, MAC's once staggering wartime cargo figures have dropped drastically because airlift users just aren't

and Ten Pax"

demanding as much service as before.

Not many months ago, aircrews and ground support personnel were going full bore, working long hours and often struggling to do a mammoth job with too few people. In those days everyone was getting enough training on the job to ensure proficiency. The big action in SEA is over now, but MAC isn't about to fold just because we're no longer fighting. So how do we maintain proficiency in today's peacetime situations?

USAF and Headquarters MAC asked the same question — one which is loaded with implications of safety as well as the major considerations of operational security. The result was a USAF and Headquarters MAC Minimum Utilization Rate Study delving into all aspects of the mission. Its purpose was to determine just what, and how much, flying is necessary to maintain MAC's impressive safety record and, simultaneously, to allow the Command to meet future unprogrammed requirements.

The Minimum Utilization Rate Study, which has been approved by Headquarters USAF and the Secretary of Defense, addresses many factors relating directly to aircrew members and support personnel. For example, it details flying time requirements necessary for basic proficiency, plus the time needed for specialty jobs such as MAC world-wide flying and combat airlift mission (CAM) proficiency. Other aspects of the study include the number of flying hours required to train and upgrade crew members to instructors and flight examiners, time to ferry aircraft to IRAN, and time necessary for the "aging" of pilots fresh out of Undergraduate Pilot Training School (UPT).

Pilots are programmed to reach the aircraft commander level by mid-point of a normal three-year tour. Upgrade is based upon a pilot attaining 1,000 hours total flying time. For UPT graduates to reach aircraft commander eligibility in eighteen months, they must average 41 hours of flying time monthly. The minimum number of hours required to keep a pilot from slipping below a desired state of proficiency is 15 hours per month. This will slow upgrading, but it will provide enough training to ensure that he flies safely.

Ground Support Personnel

But what about support personnel? They need training, too, and a workload that will allow them to gain experience and maintain proficiency. Most support personnel are kept proficient not through flying hours per se, but by events generated by MAC aircraft. For instance, maintenance and supply elements rely on landings, ground time, and component failures for their training. Aerial port elements require cargo and passenger handling and loading. Command and control needs experience in the entire spectrum of aircraft operation. Therefore, requirements for all functional areas are considered when the time comes to determine minimum flying hours during peacetime.

The study shows that to maintain proficiency in FY 1975, the airlift system will need 97,292 hours of C-141 flying and 17,577 hours of C-5 flying quarterly. And since user requirements are lower than in the past, training time is replacing what used to be strictly airlift time. The result — less cargo on some flights. Unused cargo space usually doesn't set so well with crews that are accustomed to loading their bird to the limit. But the picture is deceiving in view of training requirements.

As a crew member or support person, you can make the training-cargo compromise more profitable by getting every bit of training you can from each flight. And you'll be maintaining a readiness to respond should MAC be called upon to surge once again.

ABOUT THE AUTHOR

Maj Dan Hunter was commissioned in the Air Force in 1961 following graduation from Undergraduate Navigation Training. Since 1964 he has accumulated over 5,000 hours in C-121, C-124, C-130, and C-141 aircraft with MAC and has been involved with current operations management at wing and numbered air force. He is currently assigned to the Capabilities Branch of the Current Operations Directorate at Headquarters MAC.

The Replacement

The room was veiled in silence. Only the occasional whisper of small talk was heard exchanged between two of the men that surrounded the conference table. All the seats were filled except the head. The ash trays, memo pads, water glasses and name plates were symmetrically arranged. A man entered from the door behind the empty chair and all the other men stood.

"Keep your seats, gentlemen," he said quietly. "We've convened today to choose a replacement for Lieutenant Colonel George R. Egroeg who was killed in an aircraft accident yesterday. I've asked you all to be ready with your recommendations."

The man sitting behind the name plate that simply read "PO" drew on the memo pad as he slowly raised his hand.

"Yes?" the chairman said.

"Sir, I feel that the position is too important to be filled again by a lieutenant colonel. I would like to suggest a brigadier general."

A youthful looking man at the end of the table interrupted.

"No, no sir!" Identified only by the plate that he was now glaring over as "I," he wore the latest style clothes and was very neat and well groomed. "I feel that the rank of the individual is secondary to the qualifications he must hold. There's no need . . ."

The chairman interrupted, "I agree with you. The rank is basically immaterial. In 1968 the position was filled with a brigadier general and, while his performance was excellent, the prestige gained by his rank faded very rapidly after he completed the job. We will, therefore, confine our support of our recommendations to the qualifications of the individuals."

The first man, still looking at his memo pad, said, "Sir, under just the consideration of personal qualifications, I place before this committee the name of Brigadier General Howard C. Feldniel."

There were several nods

An unusual Board of Directors nominates and selects a suitable candidate for the next aircraft accident.

by CW2 David R. Katz, United States Army

around the room and murmurs of approval.

"He has an outstanding military record, highly decorated and graduated third in his class. His only negative quality, if you want to call it that, is that he gets so involved in his work that he is not aware of what is going on around him."

He was sure that his nomination would win and that would be good for his own career.

The young man at the end of the table stood up and with a raised, rapid voice said, "Sir, I place before this committee the name of Captain Charles X. Neerg."

"Sit down" the chairman said. "This is not a high school class election and you will all have a chance to express your preferences and dislikes. Now continue."

Sitting, the young man said, "The captain is a graduate of Massachusetts Institute of Technology, with a master's degree in mathematics, had two tours in the Republic of Vietnam — the first with the 5th Special Forces when he won the Distinguished Service Cross."

One of the other men at the table broke in saying, "He is relatively young. It is hard to project the proper image at 26."

The younger man replied, "Age is not what I call a qualification. If it were the limiting factor, it should not be the lack of it, but the overabundance of it!"

"Gentlemen," the chairman again interrupted, "I would like us all to be civil so we can expedite the selection as much as possible. So far we have two names placed before us. Are there any others?"

The meek looking man behind the name plate "IE" simply said, "I think Warrant Officer Joseph E. Navills would be good for the position. He is not well educated like the other two gentlemen, but he has a lot of enlisted time and I think we all know that he could fit the requirements of the position quite adequately."

There were murmurs of concurrence.

"Are there any other names?" the chairman questioned. "Shall we put it to a vote then?"

The slips of paper were neatly folded as, one after another, they were passed to the chairman. As he opened each one he marked the vote on his memo pad.

"Gentlemen," he said rising, "the majority of the votes cast are for the captain to replace Lieutenant Colonel Egroeg. I'll leave it to the three persons nominating the replacements to notify the captain tomorrow. This committee will remain on call of the chairman. Good day."

All the men rose and after the chairman left the three men agreed to meet at the airfield operations the next afternoon to notify the captain of his selection.

The next day was clear and the three had arranged to be on the flight in which Captain Neerg was to fly the post commander to a conference several hundred miles away. The takeoff was delayed by slow refueling. This upset the captain, who was anxious to impress the commander. He skipped through his preflight in an attempt to make up lost time. This was observed by the committeemen. They agreed that indeed they had made a good selection.

After they were airborne the young man, proud that his nominee had been selected, handed the captain a letter that read:

Greetings:

You have been selected by the Accident Causation Committee to be the replacement for Lt Col George R. Egroeg. You are dead!

Chairman of the Board
DEATH,

MEMBERS

Preoccupation
Impatience
Inexperience
Inattention
Overconfidence
Childishness
Neglect
Irresponsibility
Self-medication
Cockiness
Self-reliance
Ego

There will be a replacement for each death in an aircraft accident and one of these board members may have a hand in selecting the "replacement." Don't let one of these members be the cause of your selection!

— U. S. ARMY AVIATION DIGEST

The Ace of Aerospace strives to impress another kind of Ace but runs into unexpected ground fire.

C.R. TERROR

Briefings, staff summaries, monthly reports, quarterly reports, reports on reports, yuk! My In Basket needs overhauling. It can't withstand the load much longer. O' to bust out from this paperwork prison for a few days — even a few loop-de-loops around the flagpole in that pax carrying Sabre jet would help."

C. R. began calculating his chances for a trip. "Lemmee see, 85 pilots and only four T-39's — not a snowball's chance in Hades for a brief parole. Even with good behavior, I won't get within 20 light years of that bent wing tinker toy till late next month. Here I sit, MAC's Master Manipulator of Wires and Tires, doomed beneath an avalanche of 'REPLY TO ATTN OF's,'" muttered C. R. sadly.

The phone rang and Paunchus Pilot stretched his portly frame across a stack of papers to answer it.

"Directorate of Command Data Automation for Resources Planning of Control Systems, Major C. R. Terror speaking."

"Good morning sir, this is Sergeant MacMurray, T-39 Section. Would you be available to fly a trip Thursday and Friday this week? A VIP run was just levied on us and we need an AC."

The Aviator with Avoirdupois nearly experienced cardiac arrest in his excitement. Controlling his obvious delight, he replied with sure coolness.

"I believe I can break away for a few days, but first allow me to check my calendar." Deliberately shuffling paperwork close to the phone, the Fearless Flyer audibly prophesied: "Staff meeting tomorrow, in-person briefing to General Talon Wednesday, control system conference Thursday. Hmmmm, put me down for the trip. I'll have my staff cover me for the Thursday conference."

"Sir if this trip is going to interrupt your staff schedule, I'll see if I can find another pilot," offered the scheduler.

Nearly falling out of his chair with fear of blowing his golden opportunity, the Anxious Aviator swallowed hard and blustered, "It's okay m'boy. Take it easy now. All is well. M'staff's got me covered and I'm free to slip the surly bonds and grace the airways to any distant destination. All right Sarge, gimmee the mission particulars."

"Very well sir, you're set up for a 0700 show with a 0900 go. You'll be carrying Major General Fang plus three passengers to Miami on Thursday, RONing in Miami Thursday night. Friday you're scheduled to fly the General and staff to Andy and then back to Scotch AFB Friday evening."

"Who's going to ride shotgun on this aeronautical odyssey to the land of year-round bikinis?"

"Sir, your copilot is Capt Sam Sufferin and he just checked out in the T-39."

"Sarge, you mean Long Sufferin Sam?" C. R. blurted. "I didn't know he was here at Scotch. Know him well. Taught him everything he knows."

"Sir, a detailed mission itinerary will be in the trip kit at Scotch Operations Center Wednesday afternoon," reminded the Sergeant.

"Merci mille fois," soothed the Flamboyant Flier.

Slowly replacing the telephone receiver in its cradle, C. R. mentally massaged his good fortune and thought, General Fang — fighter ace, 26½ confirmed kills in The Big War — a real pilot. Here's a once in a lifetime chance to impress someone big who would surely reward the flying finesse of MAC's Master of Machinery.

C. R. stumbled into base ops 40 minutes after show time, dragging his usual complement of cross country baggage: matched set of Wilson 1200 golf clubs, hand-tooled doeskin hang-up bag, and the Portable Potable Terror-Tini kit.

"Sammy m'boy how are ya doin' these days," greeted the Pompous Pilot.

"Hey boss, long time no see. How have ya been?" quizzed C. R.'s Deputy Driver.

"Haven't got time for idle chit-chat now Sammy; we gotta block out in one hour. Gotta look sharp for General Fang. You finish up flight planning and fill in the 175 while I call Fleet Service, Protocol, and check the weather and NOTAMS," directed C. R.

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"Before Starting Engines Checklist is completed and the bird is cocked, Sir," acknowledged Sam.

"Okay, Sam," directed C. R., "after the General and party get on board, start the engines and run the before taxiing checklist while I brief the pax."

"Yessir, I'm ready to go, answered the copilot.

The dark blue staff car, with its two star flag fluttering in the breeze, approached the cocked Sabreliner and stopped opposite the aircraft entry door.

C. R., standing at attention beside the entry door, exposed his massive girth as he rendered a not so crisp salute to the approaching VIP.

"Good morning sir, I'm Major Terror, your can-do craft commander. Enroute time to Miami is 1 plus 55 at flight level 330—"

"Major Terror, haven't we met somewhere before," interrupted the muscular, well tanned Two Star.

Small streams of perspiration quickly formed and trickled down into the Rotund One's eyes which were transfixed on the general's multiple rows of ribbons.

"Sir, the aircraft is cocked and ready to go. May I assist you with your baggage?" prompted the Master of Verbal Escape and Evasion. The General nodded his thanks and C. R. began his passenger briefing.

Long Sufferin Sam signaled the crew chief for engine start and brought the military biz-jet to life while C. R. finished the briefing and tidied things up in the back.

Easing his corpulent frame into the left seat, the Tamer of Throttles barked, "C'mon Sammy, let's get this mini bug sucker moving out to launch pad 31. We've got to have wheels in the well in seven minutes m'boy."

* * * *

The Master Manipulator abruptly advanced throttles and released the brakes with a back slapping jerk. Accelerating rapidly to rotate speed, C. R. pulled

C.R. Terror

back on the yoke and the Sabreliner severed its gravitational bond. Puzzled by a premature level off 300 feet above the ground on runway heading, Sam spoke up.

"Sir, we're supposed to climb to 6,000 feet on a heading of 120 degrees."

"In good time Sammy m'boy, in good time. I'm letting airspeed build up to 325 knots for a tactical climbout, just like the old days in the eighty-six," quipped the Dandy Driver.

"But sir, max speed below 10,000 feet is 250 knots and we'll get violated," explained the concerned copilot.

"Not a chance. We're too low for radar to pick us up and in a minute or so we'll exchange airspeed for altitude and zoom up to six grand — but you wouldn't know about such things," boasted C. R.

"I never realized you flew fighters," interjected Sam.

"Yes, while you were fondling with crayons in kiddiegarten, I strapped on the ole F-86D model many a time," C. R. revealed.

As the airspeed approached 325 knots, the Portly Pilot racked the speeding mini jet into a 70-degree right bank and pulled in a steady two G climbout to 6,000 feet. The altimeter was a blur as the Sabreliner rocketed upwards. Reaching 6,000 feet, C. R. pushed forward on the yoke. Sam's stomach joined loose objects and debris as they floated in a space-like environment during the negative G level off. Just as the dust was beginning to settle in the aircraft, Center issued a climb clearance to flight level 330.

"Sir, climb power is . . ."

C. R. didn't give Suffering Sam a chance to continue.

"Don't sweat the trivial technicalities m'lad, just set 100 percent power on both engines so we can expedite our ascent to three-three-and oh," commanded the Swift Skipper.

Sam dutifully complied and the jet shot upward.

* * *

Sam completed the cruise checklist and quickly computed cruise airspeed profile and fuel data.

"Sir, an indicated of 270 will give us a 430 true airspeed," gestured Sam.

"Sammy, I was just figuring we could be on the first tee 'bout 20 minutes sooner if we cruise at 325 indicated," reminded C. R. "The General has got more important things to do than ride around in a flying test tube. He's an old fighter jock accustomed to getting to places in a hurry, so let's press on."

A rat-a-tat-a-tat sound interrupted the cockpit routine as the mach warning signaled an airspeed breach.

"Better slow down a little," cautioned Sam.

"Got things well under control. We can easily fix that minor irritant," explained the Adroit Aeronaut. He stretched a fatty forearm toward the overhead circuit breaker panel and pulled the mach warning circuit breaker.

"Now, there'll be no more interruptions from that miscalibrated black box," defended C. R.

The cockpit DME clicked off the miles at the rate of nine per minute as the T-39 roared on for the next hour toward the Florida peninsula.

"Hey boss, we're passing over St. Petersburg. I'll give Miami Center a call and request enroute descent about 100 miles out of Miami," suggested the copilot.

"Forget it Sammy. Such a maneuver will eat up too much time. We can save another five or ten minutes by maintaining 330 until overhead Miami. Then I'll fly a tactical penetration to an overhead 360 pitchout. Besides there's a fuel pinch on these days. We'll end up makin' fuel on this leg."

"Sir, don't you think all that yanking and banking will be uncomfortable and perhaps scary for the passengers?" quizzed the second-in-command.

"Naw, do I have to remind you that we're carrying a fighter ace in the back? The General probably has more time flying upside down than you have total time," teased the Lothario of Levers. Sufferin Sam stared at the instrument panel, his pride injured. C. R. could be cruel at times.

Overhead Miami, C. R. retarded engine r.p.m. to 75 percent, rolled into a 120 degree bank, and pulled the nose through the horizon. Sam was petrified.

"Okay Sammy m'boy, we're on our way, wheeeee! Look at us go, just like the F-86 — 30,000, 28, 27, 26, 24, passing 20,000 feet! We'll be in perfect position for an overhead 360," boasted the MAC Triple Threat.

The straining Sabreliner leveled off on a 1,500 foot initial and streaked toward the runway.

"We're coming up on the midfield pitchout point for a left break" warned C. R. "Watch this Sammy. Thousand one, thousand two, break! Throttles idle, speed brake extended — 60 degrees and a two G turn! I'll keep the

pattern tight m'boy so we don't waste time."

Unprepared for the strain of the turn, Sam nearly backed out. They were on a short downwind now.

"Gear down — before landing checklist. Something wrong Sammy. You look a little flushed. Got three green — no make that four in the green," teased the Frightful Flier. C. R. began a steep, diving turn toward the runway. Seeing he was going to overshoot the runway, he pulled back on the yoke. What began as a buzz, quickly amplified into a burble, and now was a turbulent rumble. As the left wing started to tuck under, Sam cried out! "Boss, we're in a stall — no flaps, no flaps!"

Sam thrust the flap lever to the full down position, bolted the throttles forward, and applied full right aileron. The aircraft responded lethargically and leveled off just as the gear firmly settled onto the runway.

"Whew, that was a close call boss," whispered the shaken copilot.

"My past experience in high performance aircraft certainly came to the rescue after you forgot the flaps. Let this be a lesson learned, Sammy. We'll keep this between the two of us," comforted the World's greatest. "But I'll have to make an entry in your training folder." Unaware of the General's presence behind the cockpit seats, C. R. continued his verbal harangue of Long Sufferin Sam.

"Major Terror, care to share your little secret with me," challenged the stern two star.

"Whhaaa — no sir; I mean

yessirr! Gulp! Gasp. I aah — we ahh were flying' a max performance mission profile sir," stuttered C. R.

"We'll discuss this max performance mission profile in my staff car immediately after we block in, Major Terror."

"Yessir, right away sir," rasped C. R.

* * * *

"This flight was an abomination, Major Terror. Your, quote max performance profile throughout the flight was unquestionably unsafe, abusive to the aircraft, and damned uncomfortable. There's no place in MAC for such childish antics as I witnessed today. As of right now, you are relieved as aircraft commander. My aide, Major Condor, is T-39 qualified and will assume command of the aircraft for the remainder of the mission. You will keep me company in the passenger compartment and enlighten me on the mysteries of high performance flying until we return to home station. That's all I have for the time being, Major Terror. You're dismissed."

The Shakey Steersman of Stringers and Stabilizers spilled out of the staff car and slowly shuffled over to a waiting hotel bus.

"Hey boss, what did the General have to say?" asked Sam.

"Oh, nothing much m'boy except that I'll be spendin' quite a bit of time in the passenger compartment bringing him up to speed on the idiosyncrasies of current high altitude flight profiles.

"Driver, time's a wastin' — off to the hotel and then the Beachside Country Club! A quick eighteen holes — ah, make that nineteen— with my golfing partner Arnie. Now there's a Terrorific Twosome, m'lad. Goin' to drop my handicap down to five or six strokes with my new clubs," boasted the Glib Golfer.

"Did you bring a golf bag along, sir? The only bag I saw on the aircraft was the silver trimmed blue one they loaded into the General's staff car with the rest of his baggage," Sam reported somewhat apologetically.

"Ooohhh, no! It can't be. Tell me it ain't so, Sammy!"

Quick Stoppers

IFR in the Cockpit

Cruising along comfortably in the clouds, the crew of a four-engine recip suddenly found the cockpit going IFR in dense electrical wiring smoke. Equipping themselves with smoke masks and looking like extraterrestrial visitors, the crew performed procedures for an electrical fire of undetermined origin. Electrically isolating this and that, the source of the smoke narrowed down to the left pitot tube. With pitot heat isolated, the plane landed at its destination without further hassle.

Sifting through scorched wire bundles and electrical schematics, investigators discovered that the new pitot heads had been installed as a part of the AIMS modification. But electrical wiring and connectors had been replaced with components incapable of handling the increased electrical demand of the new pitot heads. So when one of the old electrical connectors got enough amps and volts, it got the pilot's attention the only way it knew how.

Many old and not-so-old aircraft are being modified with new AIMS altimeters and appropriate pitot heads, and while the installations are now proceeding smoothly, it won't hurt to be on the lookout for abnormal electrical indications in the cockpit of your newly modified machine.

No Red Streamer

After takeoff on a C-130 functional check flight, the copilot raised the gear handle. The nose and left main gear retracted normally but the right main stopped at an intermediate position. The aircraft commander directed the copilot to lower the gear and the flight mechanic went back into the cabin to check it visually. Following gear extension, the flight mechanic verified that all were down and locked.

After 35 minutes of flight, the Herky bird settled onto the runway without difficulty. Investigators quickly found a towing-jacking device still attached to the right aft gear strut. The attachment prevented gear retraction beyond the intermediate position. Normally, a red warning streamer is attached to such devices, but none was found and probably contributed to maintenance and aircrew personnel failing to detect the ground towing device during aircraft preflight.

Wing Fire

A wing fire usually spells disaster, but an EB-57 crew got their burning bird back on the deck before the fire had a chance to burn the wing off. Shortly after they had taken off, the oil cap on top of number two engine came off. Low pressure airflow sucked out engine oil and the streaming oil ignited when it flowed over the hot engine tailpipe. The fire burned its way into the wing and quickly increased in intensity as a hydraulic line and the main wing fuel line ruptured. Darting back to the base, the pilot considered shutting down the engine but loss of right aileron control quickly negated further engine shut-down considerations.

Eleven minutes after takeoff, the EB-57 touched down and the pilot and backseater challenged a world record for the 100-yard dash after the aircraft braked to a stop. Investigators were fortunate. Although separated from the filler neck, the oil cap was contained in flight by an access cover. Recovery and detailed inspection revealed a serious deficiency in the oil cap locking feature.

Unscrewed Again

After completing wing maintenance on a four-engine military jet, ground maintenance personnel accomplished the Dash Six preflight and the crew chief signed off the preflight and wing panel inspection.

The aircraft took off and flew an uneventful flight to another base. Postflight inspection revealed a missing wing panel. Finding no damage to the surrounding skin or fastener receptacles, maintenance troops rounded up a replacement panel and put it in its place.

Fires lit and tires kicked, the big jet roared back to home station where maintenance troops found, you guessed it, the panel flapping in the breeze. Several loose, worn out fasteners of the wrong size barely held the replacement panel in place.

C'mon, guys!

Doing Its Thing

The pilot eased power off the C-141, punched off the autopilot, and commenced descent from FL 410. At 17,000 feet, the aircraft jerked a few times, and at 15,000 feet the pilot couldn't make the aircraft turn. He released the yoke slightly and the plane banked right 30 degrees. Attempting to return the aircraft to level flight, the pilot found he couldn't move the yoke. Both he and the co-pilot finally managed to bring the wings level, using considerable force on both yokes.

Shutting down numbers one and two hydraulic systems individually didn't help, so the pilot reengaged the autopilot and control wheel steering. The aircraft flew normally. Leaving well enough alone, the pilot set up a long straight-in approach and landed without incident.

A faulty power relay was the cause of the problem. When the pilot pushed the autopilot disconnect button, the autopilot power switch clicked off but the power relay did not release; thus, while visible cockpit indications showed the autopilot disconnected, the aircraft was locked onto its autopilot heading.

The crew followed established procedures in troubleshooting the problem, but not even proper procedures are foolproof. Staying alert for "non-book" malfunctions will keep you a step ahead of the game. And remember, there are more ways than one to disconnect a C-141 autopilot.

Qs

Torqued Off

Lumbering along at 5,000 feet, the T-29's number two engine lost torque and fuel flow, belched, and backfired. Deciding not to take any chances, the pilot shut down the sick engine and landed. Maintenance checked and ran the engine but the elusive symptoms could not be duplicated.

Faced with the dilemma of whether to press on to the next stop or have maintenance tear further into an engine that now functioned properly, the pilot decided to continue the mission. Motoring along the airway to destination, both R-2800s churned away as advertised until, when less than ten minutes from destination, loss of torque, fuel flow, and moderate backfiring in number two again created a few unpleasant moments up front. For the second time in one day, the pilot braced the number two prop at attention and made an uneventful landing. The automatic mixture control was replaced and the bird was test flown. Again, belch, hiccup, backfire — back to the drawing boards. A carburetor change later, a ground engine runup continued to produce backfiring. Cause of the engine malfunction could not be determined, so the troublesome engine was removed and scheduled for depot teardown.

One's Company, Two's A Crowd

This variation of a familiar saying applies to aircrews flying in the same general area, unaware of each other. Recently, a C-47 crew got the message when a C-5 suddenly filled the airspace directly ahead.

Flying VFR, the C-47 was passing close to an airport with which it had no radio or radar contact. Meanwhile, a C-5 and another jet were flying within the traffic area under IFR radar surveillance. With radar separation in effect, approach control cleared the C-5 for an NDB approach and to contact tower.

Flying a northeasterly course seven and a half miles north of the base, the C-47 crew spotted the jumbo directly in front of them just in time to take evasive action. In this case, there was no requirement for the C-47 to have contact with the airfield traffic control agency. But that fact would have been no consolation had the two aircraft collided.

Military VFR flight plans are an endangered species these days for obvious reasons. But if you're on a VFR flight plan, take the cautious approach and notify military and civil airport traffic agencies in your area — whether or not it's required. DOD FLIP Planning contains procedures and other goodies on Stage II radar service for VFR flights.

Altitude Call-outs -- Here's Why

Making a nonprecision approach in a snow-shower, a civilian aircraft descended well below minimum descent altitude (MDA) and struck some 15-foot high trees, located approximately 7,000 feet short of the runway. The pilot aborted this approach and flew another. With leading edge and trailing edge flaps of his aircraft damaged, the pilot managed an uneventful landing.

Investigators discovered that the copilot did not make required altitude call-outs. All three pilots aboard told the investigators that they were unaware of the airline's MDA call-out requirement until after the incident.

Now they know.

after deadline . . .

WARNING: FAULTY CIRCUIT TESTER -- Recently, a BX-purchased Ferry Columbia circuit tester, rated at 90 to 600 volts, exploded when it was connected to a 440 volt circuit. It is not an Underwriters Laboratory approved item and has a stock number of 2209-90-600V. A MAC wing, following up on the accident, tested an identical tester with the same results -- the equipment failed at 440 volts. Base Exchange officers are checking their shelves for these items to hold them off the market until they're certified safe. If you know anyone who has one of these circuit testers, caution him to use it only for touch testing and never leave it in place for more than four or five seconds to avoid overheating and failure. Remember, if you're working on the flight line, use only Air Force issue equipment.

THAT STRANGE PLANE -- The aircraft in the upper left photo on the June cover was a C-74, forerunner to the C-124. We've received a number of inquiries concerning the photo. Watch for a feature story on the C-74 in an upcoming issue of THE MAC FLYER.

NEXT MONTH -- Feature articles next month include:

* Signature in the Sky -- A look at that invisible villain, wake turbulence -- where to find it and how to cope with it.

* Minimums -- runway in sight -- The nonprecision approach and some suggestions on how to compensate for not having precise glide path data.

* When Push Comes to Shove -- How a few well meaning men put undue pressure on a new crew commander.

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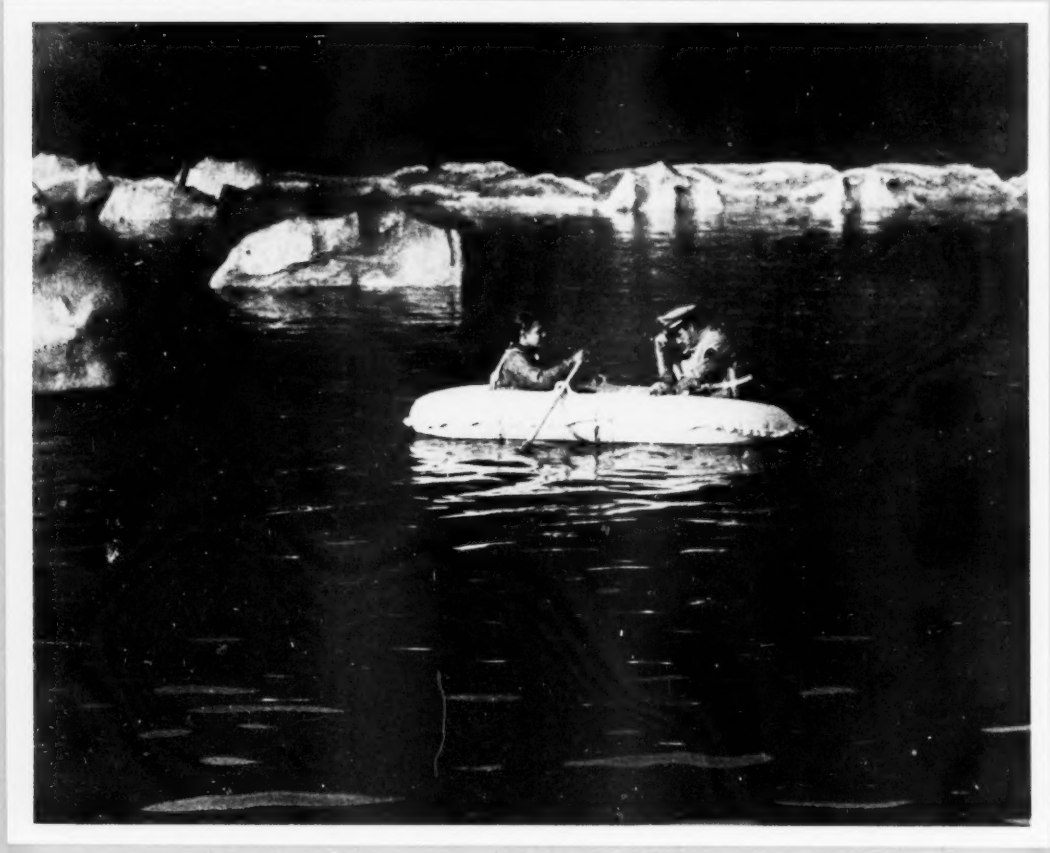
Touch and Go



"FIVE, 10, 15, 20-- READY OR NOT,
HERE I COME."